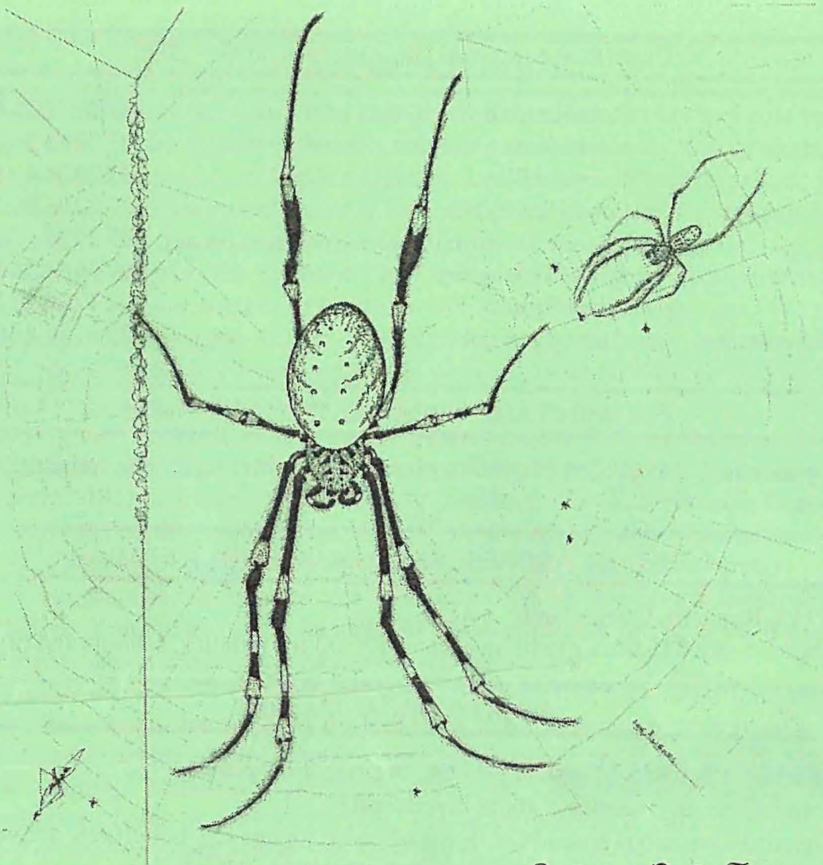

Golden Orb Spider
(*Nephila plumipes*) Large
female, smaller male (right)
Quicksilver Spider (left)

Butterfly & Other Invertebrates Club Inc.

Newsletter

ISSUE NO: 42 DATE: SEPTEMBER 2006 ISSN: 1326-0006
http://www.connectqld.org.au/boic

CLUB PLANNING AND ORGANIZING GROUP - 2006

President:	Ross Kendall	07 3378 1187
Vice President:	John Moss	07 3245 2997
Treasurer:	Rob MacSloy	07 3824 4348
Secretary:	Peter Hendry	07 3206 0048
Newsletter:	Daphne Bowden (bowden@itconnect.net.au)	07 3396 6334
Librarian:	Janet Willoughby	07 3343 3949
Publicity:	Lois Hughes	07 3206 6229
Excursion Convenor:	Alisha Steward	07 3275 1186

PLANNING AND ORGANIZATION MEETINGS

A quarterly meeting is scheduled in order to plan club activities and the newsletter. See BOIC Programme.

CONTACT ADDRESS AND MEMBERSHIP DETAILS

PO Box 2113, Runcorn, Queensland 4113
Membership fees are $15.00 for individuals and $20.00 for families, schools and organisations

AIMS OF ORGANIZATION

- To establish a network of people growing butterfly host plants;
- To hold information meetings about invertebrates;
- To organize excursions around the theme of invertebrates e.g. butterflies, native bees, ants, dragonflies, beetles, freshwater habitats, and others;
- To promote the conservation of the invertebrate habitat;
- To promote the keeping of invertebrates as alternative pets;
- To promote research into invertebrates;
- To encourage the construction of invertebrate friendly habitats in urban areas.

NEWSLETTER DEADLINES

If you want to submit an item for publication the following deadlines apply:
March issue – February 21st June issue – May 21st
September issue – August 21st December issue – November 21st

COVER DRAWING

Golden Orb Spider (*Nephila plumipes*) by Lois Hughes

PRESIDENT'S POSTING

I wish to thank the members who have made me welcome in my new role as President and look forward to closer contact with many more of our diverse and often far-flung members.

Special thanks are due to Daphne Bowden, Lois Hughes, John Moss, Peter Hendry and Rob McSloy. These dedicated people quietly and efficiently keep the core activities of the club functioning.

In June, we wrote to the Brisbane City Council expressing our concern at the removal of mistletoes from trees at a number of locations within the Brisbane City area. We received a detailed response from Margaret Allison, Divisional Manager, Customer & Community Services who has referred our correspondence to Council's Natural Environment and Sustainability Division for policy consideration.

We propose that a reference group be formed to liaise with the Brisbane City Council and initial discussions suggest that we will have representatives from the Queensland Herbarium and CSIRO plus other stakeholders as members. The Club Planning Group has asked John Moss to coordinate formation of the Reference Group and to be our main representative. Other club members are invited to contact John and join the group.

It is also proposed that we set up a database of mistletoes found in the streets and parks of Brisbane. You are invited to let us know of any mistletoe you observe. If possible, please give the species and host plant names as well as location.

For those members in other council areas, I suggest that the Club will be able to lend support if you have issues that you may wish to bring to the attention of your local council. The Club often receives invitations from like-minded organizations to set up a display at an event they are staging. While we would like to oblige, there are times when we do not have enough members available to staff our display. Please let us know if you could help out. If you are a member of another organization, you may like to have a copy or two of our membership application form for use in recruiting new members. Best wishes to all. ***Ross***

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Golden Orb Spider (*Nephila plumipes*) (family Nephilidae)

Following a request for an illustration and not having clear and detailed photographs on which to base my illustration and oil painting that followed, I went in search of living specimens of the Golden Orb Spider along the creek margins and in the forested hillsides. I was immediately rewarded.

Stretched across the creek was a large, glistening golden web, at the centre of which was enthroned, like a queen resplendent, the brightly patterned female, surrounded by her courtiers.

There are three species of Golden Orb Web Spiders (*Nephila* species – formerly family Argiopidae) most commonly found in Australia. They are *Nephila plumipes* (cover illustration), *Nephila edulis* (illustrated in Wildlife of Greater Brisbane p.29) and *Nephila pilipes.*

The females are large, *N. edulis* and *N. plumipes* having a body length of 24 mm. but the male is a tiny 6 mm. These two species are most commonly found in coastal eastern Australia, extending inland from temperate to tropical climes. The third member of this genus, *Nephila pilipes*, once had a tropical distribution only but has gradually been moving southward and has now been reported from Noosa. The female is 45 mm. in body length with the male again a mere 6 mm.

Nephila plumipes, as the name suggests, has hairy legs and a conical mound on its sternum, its delicate, hairy black legs, banded yellow and orange/red, slenderly extend from a fat, dimpled grey abdomen intricately patterned in yellow, blue or brown, the pattern varying as the juveniles mature. The shield-like front section, which comprises the fused head and thorax is strikingly patterned in black with silvery white hairs, light eyes and with the palps situated either side of the mouth, banded with black and yellow.

The webs were home to a number of other small spiders. Opportunistic brownish patterned males, wait expectantly for the signal of acceptance to mate on the webs periphery, feeding on the smaller trapped prey. Like shimmering balls of mercury, the tiny aptly named Quicksilver Spiders (genus Argyrodes, family Theridiidae) were seemingly always present on both the Golden Orb Spider's webs as well as the Garden Orb Spider (*Eriophora transmarina* – Wildlife of Greater Brisbane p.29). They also keep the webs clear of the prey too small for the large female and have been observed even drinking prey liquefied at the mouth of the host while she eats. After one excursion, a tiny Quicksilver Spider fell from my hair onto the table and I was able to examine it under a magnifying glass which revealed its unusual shape and markings, invisible to the naked eye, on its 2mm. long body.

I've noticed the webs aren't always golden, especially those of the juveniles but the web construction is always the same and quite distinctive. Only the web of the largest, *N. pilipes* is truly golden. The webs of the smaller species vary from silver to light yellow; yellow is a known attractive colour for insects. They weave a circle that is complete but also has superstructure in front and behind which has scaffolding supporting it, above, in front and behind and the female remains permanently in the centre of the wheel. She doesn't demolish her web and re-build it nightly as some other species do, but mends it as required; only completely re-building if the damage is irreparable.

After mating the female of the smaller species hides her egg sac in a curled leaf or other suitable receptacle within a metre of her web; the females of *N. pilipes* bury their web in the ground.

Early one morning I witnessed an intriguing sight. A tiny, almost translucent spider was audaciously constructing a perfect wheel web between the supporting struts on the outskirts of the Golden Orb spider's web, no doubt appreciating the presence of main guy lines supplied unwittingly by the giant host.

The Golden Orb Spider stores all inedible insect parts, like beetle wings, in a long string of sticky tangled web and suspends and anchors it in the scaffolding. Like silent sentinels, some sit expectantly guarding bush pathways in the forests. Others straddle creeks or their margins, while others prefer more elevated home-sites in the trees. They have adapted well to human habitation utilizing orchards, gardens and house structures. Being completely harmless to us, they would only bite if grabbed or roughly handled, their fangs not being designed to bite humans and would only attempt to do so in self defence.

I never imagined I would be waxing lyrical about a spider, let alone considering it a subject worthy of painting, but this beautiful species has given me hours of pleasure as I've studied its habits, from tiny specimens to maturity. I was quite saddened when they all disappeared within a week, I guess, because of the cold weather.

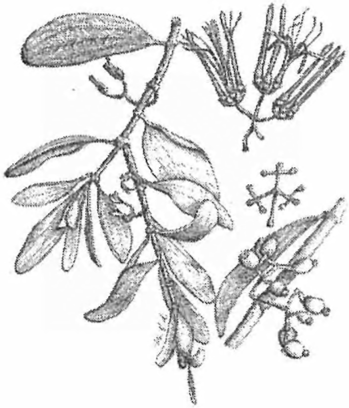
Lois Hughes

PLANT PROFILE

AMYEMA congener* ssp. *congener (Sieber – ex Schultes & J.H. Schultes) Tieghem
Drawing & Text by Grace Lithgow (reprinted with permission from SGAP Bulletin, June 2006)

FAMILY:	Loranthaceae.	
DERIVATION:	*Amyema:*	from the Greek "a" meaning not, and "myeo" to instruct, because up until 1894 the differences separating the genus from *Loranthus* had not yet been shown.
	congener:	derivation not known.
COMMON NAME:	Variable Mistletoe	
PRONUNCIATION:	ay-me-EE-ma con-GENE-a.	

This is a dense, spreading to upright parasitic shrub. The knobby haustorium sends strands under the host bark, and it gives rise to several branches which are stiff and green when young but maturing to a grey-brown. One large plant was over 1 metre in width and depth.



Leaves are firm, sometimes twisted or curled, light yellowish green to bright green, and variable in size and shape.

Flower buds are slender, green with purple shading near the tip. Inside the petals are yellow to orange with the stamens red, arranged in sets of three flowers, the central flower without a stalk. Flowering occurs September to October.

Fruiting is January to February. When ripe, fruits have a dull surface of yellowish green. Some have a brown coloured blush on one side.

Variable Mistletoe grows on a range of *Acacia* species, *Auranticarpa rhombifolia, Citrus glauca, Croton phebalioides*, *Elaeodendron australe, Geijera parviflora, Melaleuca bracteata* and several other native species, as well as cultivated orange and peach trees.

It is host to butterflies - Black or Common Jezebel, Satin or Amaryllis Azure and Purple Azure.

BOOK REVIEW

"Some Mistletoes & Other Semiparasitic Shrubs" ***Author: M. Grace Lithgow***
Published by Chinchilla Field Naturalists Club Inc.P O Box 368 CHINCHILLA QLD 4413
80 pages. Paperback. Reviewed by **John T. Moss**

It's not often that a landmark publication on an aspect of natural history appears where the author has the dual talents of descriptor and illustrator, as well as being a pioneer in their field of interest. About 10 years ago just such a book appeared and we were treated to the extraordinarily detailed drawings and descriptions of "Sixty Wattles of the Chinchilla and Murilla Shires".

Well, it has happened again, and once more Grace has excelled in sharing with us her love of the variety and form of mistletoes of that part of the Darling Downs which includes the Brigalow Belt, an area rich in both aerial and root semi-parasites. Grace has studied in detail the biology of these fascinating plants and transformed this knowledge by pen and pencil in a unique way that I find difficult to verbalise. Suffice it to say that her superb drawings are scientifically accurate in every detail and, of course, show features that colour photographs would not bring out.

Mistletoes have often been overlooked in works on native plants and, unless in fruit or flower, generally go unnoticed by wanderers in the bush. However, recently there have been a small number of books published (or about to be so), which have included chapters or sections on these neglected plants. *Mangroves to Mountains Volume II* with Glenn Leiper's wonderful colour photos and the upcoming "Red Book", with Gwen Harden's superb line drawings, are two that come to mind. However, where these cover mistletoe etc. species of the east coast and sub-coastal regions, Grace's book includes species that extend further inland, even to the semi-arid areas.

Initially Grace gives a short bibliography and then provides information on the derivation of generic names. This is followed by a page on semiparasitic shrubs in general, including their biogeography. She then goes on to a description of germination and the formation of the haustorium or attachment structure, with wonderful, clear sequential drawings of the processes.

What follows then is a description of each of twenty-three mistletoe species in the two families Loranthaceae and Viscaceae on double (facing) pages with illustration opposite the text. Most of these drawings show all the details of branchlet, leaves, flowers (bud and open) and fruit. The text gives both botanical name (and author) and a descriptive common name (some of recent coinage by consensus of current workers). Recent former botanical names are included to elucidate identity of species when cross-referencing with earlier publications.

Following this is a list of local shrubs and trees that play host to the mistletoe and finally a list of the butterfly species that the mistletoe itself hosts as their larval food plant. Also provided in an appendix is a full list of the butterflies with cross-referencing to their local mistletoe hosts. Those with an interest in the fascinating insects that utilise our native mistletoes will find this information useful.

The final section encompasses the root parasites of the family Santalaceae, which includes the well-known sandalwood trees. There is a description of six species in the same format as their mistletoe relatives.

In both sections the author also lists those mistletoes and root parasites (mainly Loranthaceae and Santalaceae) that play host to other mistletoes (mainly in the Viscacece) a situation known as hyperparasitism, which I find fascinating, but which for whatever reason was not elucidated.

Possibly for reasons of space, another fascinating aspect of mistletoe biology, that of mimicry (resemblance of mistletoe leaves to that of their hosts), was not mentioned, and yet at least two of the *Amyema* species included are classic proponents of it. Otherwise, I can find very little to criticise in this publication.

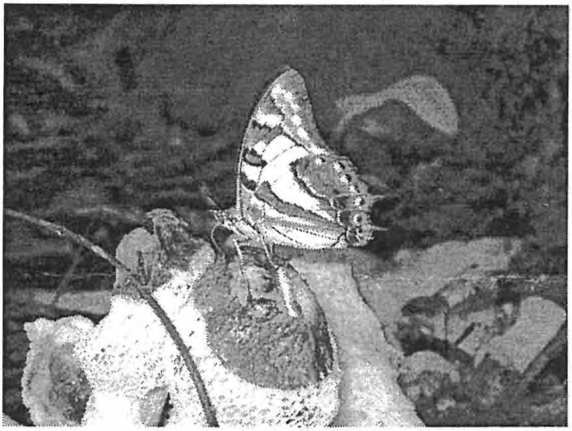
Another useful feature is an appendix listing of mistletoe host plant species, cross-referenced back to the pages where their mistletoe descriptions are arranged. Following this, there are two indexes for botanical and common names, giving as well as the page numbers, the mistletoe/root parasite order number, and an indicator if a colour photo is included.

Both front and back covers are adorned with a striking, full colour photo of the spectacular Bulloak mistletoe, *Amyema linophylla* subspecies *orientalis*. Another nineteen colour photos, filling the centre pages, give a representative picture of the form and colour of about half of the species covered in the text.

Scientific illustration is an art, and a combination of artistic talent and scientific aptitude are rare. Grace Lithgow's considerable talents are reflected in this publication. Consequently, I would recommend it to all those who have a general appreciation of nature, science and art, as well as those, like myself, who have a special interest in these neglected gems of the plant world. (June 2006)

CREATURE NOTE

Observation of Tailed Emperor butterfly feeding at fungus



Polyura sempronius feeding at fungus

Around 7.30 am on March 18, 2005 I noticed a Tailed Emperor (*Polyura sempronius*) feeding at fungus under a tree in parkland on the foreshore at Rapid Creek, a northern suburb of Darwin. I watched the butterfly for more than ten minutes. In this time it did not change position.

As the photo shows, it was feeding at the moist top of the fungus, using its proboscis. When I returned half an hour later, what I assumed to be the same individual was still feeding on the fungus.

Generally, adult butterflies drink fluids such as nectar from flowers, water from puddles, sap flows and juices from fermenting fruit or dead animals. Feeding at fungi is an interesting and unusual variation of this feeding behaviour, not previously reported for the Tailed Emperor.

In the Darwin area Tailed Emperor is widespread but uncommon.

Sheryl Keates

EXCURSION REPORTS

Excursion to Stony Creek and Bellthorpe, Saturday and Sunday, 19th-20th November, 2005 led by Jon Marshall and Alisha Steward

Jon and I (Alisha) gave a presentation at IndigiScapes as an introduction to freshwater macroinvertebrates, on a night prior to the Stony Creek and Bellthorpe excursion.

Unfortunately, to the dismay of Jon and I and no doubt other club members, the talk coincided with an exciting first-class cricket match! As a result, fewer members attended the presentation than expected. However, many members attended the excursion that was to follow.

Background: Freshwater macroinvertebrates are animals without a backbone that can be seen with the human eye. They inhabit all types of streams and rivers: from small, upland rainforest streams, to large, lowland rivers flowing through urban areas. Freshwater macroinvertebrates include such animals as shrimps, yabbies, worms, snails, mussels and insects. Some insects, such as dragonflies and mosquitoes, only live in the water during their juvenile stages, and emerge from the water as the adults we tend to be more familiar with. Some types of macroinvertebrates are tolerant to human disturbance, while others are sensitive. Freshwater macroinvertebrates are used throughout the world as indicators of aquatic ecosystem health.

The excursion to Stony Creek and Bellthorpe was composed of a number of mini-excursions, which I will discuss separately for ease. I assure you that this was a trip primarily aimed at observing *in*vertebrates, however many vertebrates got in our way and we were forced to observe them too!

Saturday activity: Exploring creek habitats for freshwater invertebrates.
The day began with everyone meeting in the car park of the picnic ground at Stony Creek, set in beautiful subtropical rainforest in the Conondale Range, Southeast Queensland. While some of the group waited for late-comers, Axel and Klaus, a pair of German insect enthusiasts, took to the adjacent cleared area to observe some day-flying moths which they were interested in. This location was so good for observing the moths that little was seen of Axel and Klaus for the rest of the day! The two set a number of pheromone lures, and took off with their nets. Once the rest of the party arrived we headed for the stream some 50 metres away, which in itself took the best part of 15 minutes to get to! On the way we observed an ant-mimicking spider - mimicking the "golden bum" ant (*Polyrachis* sp.) and a caterpillar on the stem of *Carex polyantha.* It was near here that John Moss caught a rare skipper, the Southern Sedge-Darter(*Telicota eurychlora*), the adult of that larva. We then proceeded to follow Stony Creek in an upstream direction along the bank through the vegetation, as there was no distinct walking track. Along the way we observed a number of freshwater invertebrates including water striders, mayflies and water pennies. On the vertebrate front we spotted several impressive eel-tailed catfish (*Tandanus tandanus*) nests. The nests comprised of stones surrounded by a circular area cleared of silt and debris, which the catfish parents guarded. We also spotted several species of smaller fish, and to my dismay this list included the invasive mosquito fish (*Gambusia holbrooki*). Is there any river system in Queensland that this species has not penetrated?

Eventually we reached the confluence of Stony Creek with an unnamed tributary. Here we found several male, orange-brown coloured, Wonder Brown butterflies (*Heteronympha mirifica*) exhibiting territorial behaviour, and several stunning bright blue and black adult damselflies. Sadly I found a beautiful damselfly whose wings had not hardened properly after shedding its juvenile exoskeleton. As a result the poor little darling could not fly, and would no doubt end up as an easy meal for a rainforest predator. Further along we found a single, newly emerged, female Wonder Brown, in her chocolate brown and cream livery.

We observed some silken-pads left behind on the ferny leaves of an *Acacia irrorata* tree, the tell-tale signs that a Tailed Emperor butterfly larva had resided there in the past. A parasitised pupa found nearby confirmed our findings. We later stopped for lunch on some boulders in the shade. It was here where we found some caddis fly larvae at the water's edge, which had built igloo-shaped shelters out of tiny stones. We had hoped to see some crayfish during this trip, but unfortunately they were elusive and only a baby one was observed. During the lunch break a Forest Blue Butterfly (Cephenes Blue) was caught by John Moss. This was significant because they are considered to be rare, and neither Frank Jordan nor John, nor anyone else in the party, had previously encountered a live specimen in the field.

The next leg of the excursion involved climbing up the steep bank of the creek until we found a track to walk along. Many butterflies were observed along this track, including a large female of the infamous Richmond Birdwing! Some of the party then had a swim in the large waterhole back near the car park before heading off to Griffith University's field station at West Bellthorpe. A handsome male Richmond Birdwing butterfly was observed for some time feeding on some flowers near the field station.

Saturday night activity: Light trapping (and frogging!!).

Rooms were allocated, showers were had, dinners were eaten and well-earned beers were enjoyed. Soothing cicada calls were enjoyed during this time. After dusk some visiting herpetologists led us to a nearby wetland for some "frogging", where the frog calls were deafening!! Due to their vertebrate affinities, the herpetologists cannot be named here! We encountered *Litoria lesueuri, Litoria tyleri, Litoria peronii, Litoria fallax, Pseudophryne* sp. and *Uperoleia* sp. Right then, back to the invertebrates and the reason our club exists!

The rest of the evening was spent observing a multitude of insects that couldn't resist the lure of several light traps. Moths, lacewings, cicadas, and beetles were seen. The highlight of the night for me was the opportunity to observe an impressive and awe-inspiring moth - a large and beautiful Mistletoe Emperor Moth. As the name infers, this moth feeds on a species of mistletoe. I was also happy to see a large white and brown click-beetle, which was many times larger than the common brown species I am familiar with in Brisbane.

Sunday activity: 4WDing and butterfly observing.

Sunday's activity was spent at a slower pace, driving through Flooded Gum forest. Every now and then we stopped the car and hunted for invertebrates. Sunday's highlight was catching a glimpse of a colourful Regent Skipper, whizzing past at high speed. Throughout the course of the day, John Moss and Ross Kendall continuously pursued two interesting species of day-flying moths. They were without luck capturing them, and no one seemed to be able to identify the species while they were on the wing. Eventually they got lucky when Ross netted a specimen. It turned out to be the black and yellow *Cruria synopla*. The rarer, faster and more frustrating black and orange *Burgena* sp. completed eluded them.

Towards the end of the day we ran into the herpetologists again, and we were given a private viewing of a small venomous whip snake which they had collected in the palm forest. As the afternoon proceeded I turned my interest from invertebrates to native raspberries - a pleasant treat if you can find them! So I'm afraid I cannot report on any more invertebrate encounters! The weekend was just too long, and so is this article it seems! It is worth noting that the excursion was a success – some new members participated in their first club excursion, new invertebrate taxa were encountered by many for the first time, and a good time was had by all in a beautiful location. ***Alisha Steward***

Thank you to Jon Marshall, John Moss and Helen Schwencke for reviewing the article and adding/correcting some species names.

Taxa List

Butterflies and moths

Australian Painted Lady (*Vanessa kershawi*); Brown Ringlet (*Hypocysta metirius*)
Caper Gull (*Cepora perimale*); Common Albatross (*Appias paulina ega)* male
Day-flying moths (*Cruria synopla*, *Burgena* sp.)
Eastern Dusk- flat (*Chaetocneme beata*) larvae on *Eupomatia laurina* and *Neolitsea dealbata*
Forest Blue (Cephenes Blue) (*Pseudodipsas cephenes*); Four-barred Swordtail (*Protographium leosthenes*
Fruit-piercing Moth (*Eudocima fullonia*); Hairy Line-blue (*Erysichton lineata*)
Large Grass-yellow (*Eurema hecabe*); Macleay's Swallowtail (*Graphium macleayanus*)
Mistletoe Emperor Moth (*Opodiphthera loranthi*); Narrow-banded Awl (*Hasora khoda haslia*)
Orchard Swallowtail (*Papilio aegeus aegeus*) male; Pale Triangle (*Graphium eurypylus lycaon*)
Pearl White (*Elodina ? angulipennis*); Pyralid moths; Regent Skipper (*Euschemon rafflesia rafflesia*)
Richmond Birdwing (*Ornithoptera richmondia*) ♀ & ♂; Saturnid Moth (*Syntherata janetta*)
Six Line-blue/Large Purple Line-blue (*Nacaduba berenice*)
Small Green-banded Blue (*Psychonotis caelius taygetus*); Small Purple Line-blue (*Prosotas dubiosa*)
Southern Sedge Darter (*Telicota eurychlora*); Tailed Emperor (*Polyura sempronius*) pad and parasitised chrysalis; *Trapezites* sp. (either *praxedes*, *maheta* or *genevieveae*)
White Nymph/Jezebel Nymph (*Mynes geoffroyi guerini*); White-banded Plane (*Phaedyma shepherdi*)
Wonder Brown (*Heteronympha mirifica*) female and male; Yellow Admiral (*Vanessa itea*)
Yellow-spot Blue (*Candalides xanthospilos*)

Cicadas

Bladder Cicada (*Cystosoma saundersi*); Phantom Knight (*Psaltoda brachypennis*)
Bottle Cicada (larger) (*Glaucopsaltria viridis*); Razor Grinder (*Henicopsaltria eydouxi*)
Brown Bunyip (*Tamasa tristigma*); Red Tree-ticker (*Birrima castanea*)
Floury Baker (*Aleeta curvicosta*); Small Bottle Cicada (*Chlorocysta vitripennis*)
Green Grocer (*Cyclochila australasiae*)

Aquatic invertebrates

Baby crayfish (*Euastacus ? hystricusis*); Water Pennies (Family Psphenidae)
Dragonfly larvae (Family Gomphiidae); Water Striders (Family Gerridae)

Mayfly larvae (Family Leptophlebiidae); Whirligig Beetles (Family Gyrinidae)
Stone-cased caddisflies – 2 different species from the Family Tasimiidae that are rare in Queensland (*Tasiagma ciliate* – seen out of water mostly) (*Tasimia* sp. in water)

Other invertebrates

Bright blue and black adult damselflies *(Diphlebia caerulescens* and *Diphlebia nymphoides*)
Katydid – large, green; Damselfly – orange-backed
Spider mimic of "golden bum' (*Polyrachis* sp.) ant

Host plants

Acacia irrorata; *Cyperus tetraphyllus;* *Carex maculata* (in a side stream);
Eupomatia laurina; *Carex polyantha* (in main stream)*;* Laurel *(Cryptocarya sclerophylla*)

****

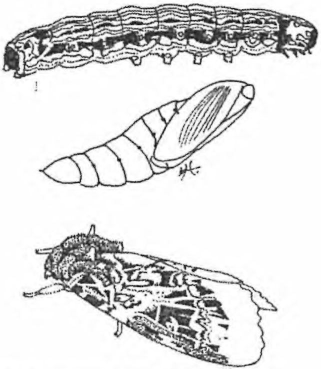
Excursion to Barung Landcare Nursery, Maleny and Rainforest Liqueurs/Mary River – Saturday 18th February, 2006

On a cloudless day, with temperatures soaring, we arrived at Barung Nursery in the Sunshine Coast hinterland. Maleny was bustling with Saturday morning busy-ness, colourful and welcoming. Nestled in a quiet spot, Barung's shade beckoned. We parked beneath a White Cedar tree, clearly showing signs of being well chewed! A search of the area unearthed no caterpillars nor pupae of the White Cedar Moth, but, inside, potted trees had numerous small (4mm) pale coloured, black spotted and headed, very hairy caterpillars. I collected some so that I could see what they looked like at maturity, but they didn't survive. These caterpillars were the subject of the article "Hairy Abortions" in the December 2005 newsletter and were of particular interest to me as our horse stud had experienced many unexplained abortions and we do have White Cedar trees growing.

Barung proved to be a wonderful source of plant and insect life commencing with a brightly coloured Macleay's Swallowtail much admired and photographed at the entrance. We were greeted by White Line-blues busying themselves around the Mutton Wood (*Rapanea variabilis*). Inside a female was busy ovipositing on the potted specimens and numerous caterpillars were found on these plants, an added bonus to our purchases. The Crinum Lily (*Crinum pedunculatum*) was hosting a large batch of caterpillars. These congregate in huge numbers, completely eating the green fleshy leaf surface, leaving almost transparent paper-thin underlying tissue before moving to another area or leaf. The leaf invariably yellows and dies

Sometimes the whole plant is affected and subsequently dies. Years ago I had hand reared some of these caterpillars and discovered they also eat the roots and I have recently learnt they bore into the heart of the lily which would explain the death of the whole plant. The caterpillars number in the hundreds and have powerful mandibles. I remember being disappointed that a brownish moth emerged, when, in my naivety, I expected butterflies. The moth involved is *Calogramma picta.*

Fran, a volunteer at the Nursery, made an interesting comment. On her property where the lily multiplies prolifically, they leave the caterpillars to do the work of controlling the plant numbers, but this is probably not a good idea for nursery specimens. With time running out we reluctantly gathered our purchases. There being so much to see and not wanting to miss anything, we went down to the park beside Obi Obi Creek for lunch. A short distance away stood the solitary Bunya Tree and battleground where the prolonged fight to preserve the threatened platypus colony's habitat from the Woolworths development took place.



Calogramma picta larva, pupa and adult

A half hour drive through the picturesque countryside saw us to our next destination at Conondale. Mary, our charming host, was waiting to greet us, her husband John unexpectedly laid up. Rich river flats, deep gullies and steep hillsides nurture the indigenous and introduced native fruit trees and herbs used by this enterprising couple to produce unique and flavour rich liqueurs and dried fruit products. After her informative introduction to their operation, Mary was initially disappointed that we were all so easily distracted by the creatures and host plants that grew so lushly creek-side. Soon we were wading through clear, cold water, Jon and Alisha unearthing hidden aquatic life as the dragonflies and butterflies danced in the dappled light above. Tiny Scrub Wrens scolded us for intruding and above our heads a Golden Whistler serenaded. What should have been a short walk stretched into hours. Mary's eyes danced as we introduced her to our world and we learned about hers. The highlight for me was the mating of the White-banded Plane butterflies, totally oblivious to our presence as they courted. A large and colourful Golden Orb Spider stood sentinel as we tried to emerge from the creek, necessitating a detour. Finally arriving back at the house, we were refreshed by an icy-cold watermelon and dried fruit concoction and a hot cuppa before we got down to the serious work of liqueur tasting which was such fun and resulted in much hilarity. Mary and John have created a unique product and a delightful setting in which to relax and enjoy the fruits of their labour. The golden sun was slowly sinking behind the hills as we all made our way back home. A magical and fitting conclusion to a magical day. Thank you Mary, may your efforts be richly rewarded.

John and Mary King's property is at 272 Ahern Road, Conondale. Phone 07 5435 0074

The following is a list of all the creatures we encountered.

Lois Hughes

At Barung Landcare Nursery - Muttonwood, *Rapanea variabilis* – White Line-blues laying lots of eggs, many larvae found on seedlings; Macleay's Swallowtail; Small Green-banded Blue flying ; Moth larvae eating Crinum Lilies

At John & Mary King's property - Blue Triangle butterfly; Male and female Varied Eggfly; White-banded Plane; Monarch or Wanderer ; Common Brown Ringlet; Orchard Swallowtail, male & female; Leafwing ; Large Grass-yellow; Skipper larva and chrysalis on *Carex* sp.-; Chequered Swallowtail; Unidentified Assassin Bug; Unidentified Praying Mantis – mottled grey colour

Aquatic invertebrates - Whirligig beetles – Fam. Gyrinidae; Water Penny – Fam. Psephenidae *(Sclerocyphon* sp.); Water Striders – Fam. Gerridae; Water scorpion - Fam. Nepidae; Snail – Fam. Thiaridae; Baby mussel – Fam. Corbiculidae; Freshwater limpet – Ancylidae; Mayfly larvae – Fam. Leptophlebiidae; Caddisfly larvae - Fam. Leptoceridae, Fam. Hydropsychidae and Fam. Polycentropodidae (the last two Caddisfly families live in flowing water, and make a net that entraps smaller food organisms); Shrimp – Fam. Atyidae (Paratya sp.); Dragonfly exuvia – probably Fam. Aeshnidae; Dragonfly – Fam. Gomphidae; Damselfly - Fam. Diphlebidae (Diphlebia sp.); Dobson or alderfly larvae – Fam. Corydalidae; Freshwater sponge - Fam. Spongillidae.

ITEM OF INTEREST

Euschemon rafflesia, the Regent Skipper : A Living Fossil?

Australia, probably the last landmass to split from the southern continent Gondwana, some sixty-four million years ago, carried with it an 'ark' of relict flora and fauna derived from a humid temperate to warm climate and contrasting seasonal day-lengths. This rainforest 'biota' which dated back to pre-Cretaceous times, contained unique and bizarre plants, reptiles, birds, early mammals and insects. Some species gradually adapted to less contrasting day lengths and changing climates that provide drier or monsoonal and alpine conditions as the continent drifted north. However, others managed to survive in more or less unaltered remnant rainforests. The oldest living rainforests on earth still exist along the eastern mountains and coastline of Australia.

Confined to old-growth vine-scrub and rainforest of eastern Australia, the unique endemic Regent Skipper, *Euschemon rafflesia* (family Hesperiidae) is a candidate for the world's oldest living butterfly. The male was once thought to be a moth, the female a butterfly! This odd classification resulted from a wing-locking, 'catch and hook' structure (frenulum and retinaculum), found on the male of this skipper. The device is frequently found in moths (especially males), but is absent in all other butterflies.

The Regent Skipper's true identity was eventually revealed when its typically pyrginid ('Flats') skipper-like life history was discovered. It has a round, dome-shaped, ribbed egg; a broad headed, colourful larva; fat, rounded pupa with a pointed 'cap'. The juveniles are found in a strong, silk-woven shelter of leaves. Perhaps significantly, the larval food-plants were found to be *Tetrasynandra* and *Wilkiea*, belonging to the old southern continent family Monimiaceae (Magnoliidae: Laurales).

The species may be familiar to many coastal and hinterland Queenslanders. Splendid, black, blue and lemon-coloured patterns make it distinctive. It is often seen (particularly in late summer) skipping through the sunny glades of rainforest or patrolling above the forest canopy. It will, however, fly in overcast weather and often early or late in the day, at dusk, or even at night (Russell Mayo, pers. comm.). Although both sexes characteristically sit with wings spread flat, they will often rest or bask with angled wings.

Chaetocneme species ('Dusk Flats': Pyrginae: SE Asia, New Guinea and Australia) are probably the Regents' nearest (but not close) living relatives, but it also shows some affinity with the 'Awl' group (Coeliadinae: Africa, SE Asia – Australia). In fact, some unique structural characteristics of both the adults and juveniles, have led to conjecture as to its exact relationship to skippers and all other butterflies. Recent molecular (DNA) research by Andrew Warren, completed in 2004, has confirmed *Euschemon*'s isolated and deeply embedded family position within 'old' skipper groups, including the Awls and also to 'Tailed Skippers' (mostly South America). This boosts a subfamily (Euschemoninae) designation for the Regent Skipper.

Further molecular and morphological studies by Warren and Andrew Brower from Oregon State University, USA are in progress. Perhaps *Euschemon*'s secret identity may eventually be revealed. The question still remains; how did the Regent Skipper get to be isolated in the southern hemisphere, in an old Gondwanan rainforest, if it didn't originate there? My guess is that it evolved in eastern Gondwana 60-90 million years ago.

Footnote: This article was derived from 'The Regent Skipper of Australia: A living fossil?' by this author (2005) published in the *News of the Israeli Lepidopterists Society*, Vol.22 (2): 17-18.

Andrew Atkins

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BOIC MEMBERS RECEIVE LANDCARE AWARD.

Save Our Waterways Now (SOWN) members Rob Whyte and Anne Jones were winners of the SKM Qld Landcare Innovation Award for 2006 at the Gala Dinner evening at the "Gabba" on Tuesday 22nd August. The award was for the most outstanding innovation in Queensland, being the development of SOWN TV. Visit http://www.saveourwaterwaysnow.com.au

AUSTRALIAN NATIVE BEES #7

The Why, Where, When and How of Finding Stingless Bees in Bushland

Why? – Well once you've been bitten by 'the bug' you will find yourself looking for stingless bee colonies whenever you visit a suitable patch of bushland. You may be out bushwalking, visiting a National Park or just breaking a long drive by a stop at a roadside rest area when you'll catch yourself scanning the surroundings for the telltale signs of native bees.

You may want to rescue hives from an area of bushland about to be leveled for the latest shopping centre development or to obtain a hive from trees that have already been felled and have been stacked up for burning. Enough of these situations arise nowadays to make it unnecessary to fell trees in natural areas that are not under threat to obtain a colony of stingless bees. Hollow trees, whether living or dead, are the natural apartment blocks in our bushland. They are home to all manner of creatures and the felling of each one depletes and degrades our natural heritage just that little bit more.

Where? – You're likely to find stingless bees anywhere in their natural range where there are mature trees with suitable hollows. For *Trigona carbonaria* this means anywhere from the Atherton Tableland to coastal areas well south of Sydney. Trees inhabited by termites are well worth a look. With their insatiable appetite for cellulose they may have created a number of suitable cavities for bees. Termites often disclose their presence by building meandering covered walkways up the tree's trunk to protect themselves from sunlight and predators.

Don't ignore fallen trees when looking for stingless bees, even those that have been on the ground for years. In many cases a colony will survive the fall and re-establish itself in its new orientation.

Provided their homesite is about the right size our little bees don't seem to care about the quality or origin of the woodwork around them. They can be found in nearly any type of tree, ranging from the sparse weather-beaten Ironbark up on the stony ridge to the luxuriant introduced Camphor Laurel down by the creek. And as mentioned in previous articles the bees don't confine themselves just to trees.

When? – The time of the year isn't all that important but, as we've discussed before, even our most cold tolerant social bees *(Trigona carbonaria)* won't get out of bed until the temperature reaches 18 degrees centigrade and will usually wait until it's a few degrees higher again before they get fully motivated to forage. So pick a warm calm day and equip yourself properly for the hunt. Besides your wide brimmed hat, sunglasses, sunscreen, walking boots, water and notebook, consider carrying a pair of binoculars and a plastic sheet or clean hessian bag. Just a word of caution here; these weather conditions also rouse some of our other bushland denizens from their usual lethargy. So while you're wandering about scanning the trees for signs of bees just keep an eye on the track in front of you for any of those wriggly sticks that might be about.

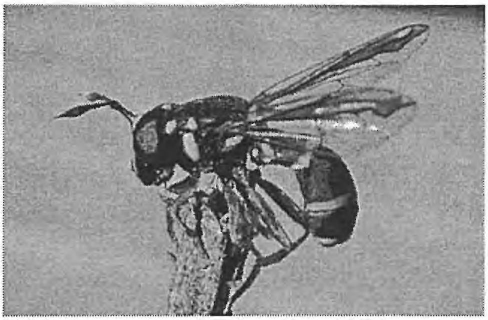
Check the immediate vicinity for any obvious signs of bees. Look at cobwebs as you move about. These are not a reliable indicator of the presence of stingless bees, but occasionally you will see a bee or two ensnared by a spider. More importantly check out any flowering plants. Some plants are better drawcards than others. I find the Grass Tree (*Xanthorrea*) flower spike particularly reliable. If foraging bees are found you can start your search with confidence knowing that in a 500 metre radius (or perhaps just a little more) there is at least one stingless bee colony.

How? – It takes most people some time and practice to acquire the knack of finding a colony of stingless bees in natural bushland. It's not that they hide from us or are even particularly well camouflaged; it's just that they are indistinct. Tiny black insects entering or leaving a small hole in a hollow tree can be easily missed by a casual inspection. So the first lesson to be learned is to give every likely looking tree a thorough going over. Start at the very bottom and work slowly upwards. Sometimes hives are found within inches of ground level. *Trigona carbonaria* bees often plaster the area around their entrance with sticky tree resins as a defence against ants and other invaders. This can appear as a dark or even shiny patch on the bark of the tree depending upon the angle of the light, so check out any such spots on the trunk or major branches of the tree.

Another giveaway, if the light is coming from the right direction, are the glistening wings of the foraging bees as they enter and leave their colony on a direct course in or out. Often there will be a number of other small insects flying around, their wings glistening in the warm sunshine as well, but they've never heard about making a beeline for anything and just wander aimlessly about. So only follow those back to the tree that seem to have a purpose in life.

Still can't find the hive? Move in close to the tree and shielding your eyes from the sun look upwards along the line of the trunk. If the trunk and major branches can be positioned against a background of white cloud so much the better. Again check for small black insects coming and going on a mission, but also look for any larger insects hovering in the one spot for any length of time. Bembix wasps, insects just a little smaller than honeybees, position themselves in front of stingless bee colonies in summer. They pick off some of the foraging bees to feed their offspring, which are housed in tunnels that the adult wasps dig in nearby sandy soils. They are usually a reliable pointer to the entrance of a stingless beehive as are the presence of Syrphid Flies. These latter mentioned flies do not hover but they are distinctive in appearance. They are a wasp mimic, sporting the bright yellow and dark brown livery of a medium sized wasp or hornet, but lacking their sting. Unusual antennae which appear to branch from a single stem are an identifying feature. They lay their eggs adjacent to the hive and their larvae emerge to feed on the colony's honey and pollen stores.

Now bring the binoculars into play and check out every likely looking nook and cranny in the upper branches. If like me extending your head backwards repeatedly in this manner literally gives you a pain in the neck then lay your piece of plastic or hessian bag in the shade, lie down and scan the tree at your leisure. You've found one, that's great, but keep looking. Up to five stingless bees nests have been located in the one tree. If you've had no luck move on to the next likely looking tree remembering to check out any flowering plants or cobwebs on the way.



The Syrhid fly, a wasp mimic, lays its eggs adjacent to stingless bee colonies and the resultant larvae feed on the bees' honey and pollen stores

When you've found a hive mark down its location in your notebook carefully so that you can check on its progress next time you're in the vicinity. A small GPS unit can be extremely useful in this regard, especially if you are mapping all the colonies in an area to be clear felled for development and you want to come back and rescue these nests at a later date.

Finding colonies in fallen trees, especially those that have been bulldozed into piles for burning, can be a slightly more difficult exercise. Stand at the end of the pile and look along it towards a plain surface such as the sky or white clouds. You may have to get down low to do this depending on the lie of the land. Bembix wasps may still be in attendance if there is a nest present, but you are more likely to spot Syrphid flies which target stingless bee colonies that have been disturbed or damaged. Provided the weather is warm enough early mornings or late afternoons may be more productive than a midday search around fallen timber. Often the bees' glistening wings are more visible when the sun is closer to the horizon.

Be careful poking around these timber piles. Sometimes large trees can be dislodged quite easily and unexpectedly with serious results to anyone clambering over them. Snakes may also be looking about for an easy feed of dislodged animals in these heaps so proceed around them cautiously. Needless to say you should obtain appropriate approval before inspecting the area or removing colonies from private property.

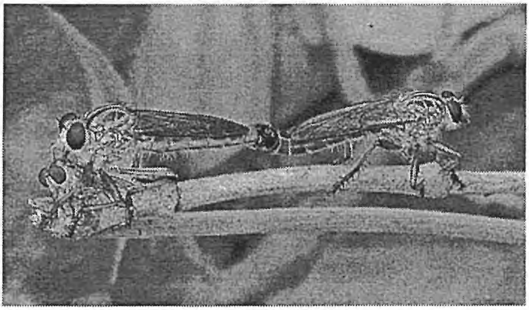
To get you started on your stingless bee search I have a list of the locations of several colonies in public places in South East Qld. This has been extracted from the Register of Stingless Bees in Public Places that appears on the Anbees Website: http://www.australiannativebees.com/

John Klumpp

Ed.: Because of space restraints I am unable to include the list of locations but if you would like them please email bowden@itconnect.net.au. If you wish to add any locations to this list please let us know.

IN THE GARDEN WITH PETER

"It's a jungle out there!" exclaimed my wife on returning from watering the garden late one afternoon. Not being fond of the bush, she had just disturbed our friendly carpet python with her hosing, been honked at by the resident Black Duck, demanding to be fed, and attacked by a vicious Common Crow butterfly that thought her new hair-do would make the perfect roosting place for the night!



Mating Robber flies with prey, another Robber fly

So I guessed now was not the time to tell her that the fairies she believes live at the bottom of the garden are really incestuous cannibalistic Robber Flies. While I have no evidence that they are incestuous, they are definitely cannibalistic. (see photo). The Robber Fly, also known as the Assassin Fly, is a member of the Asilidae family of flies. There are over 600 species in

Australia, and many more overseas. A visit to Peter Chew's web site, http://www.geocities.com/brisbane_flies/Robbers.htm, shows up photos of some of our local species including, the Giant Robber Fly with a wing span of 75mm, the Zebra Robber Fly with its striped abdomen and the fascinating Wasp-mimic Robber Fly.

With their strong legs they catch their prey mid flight, then use their proboscis to inject a toxic fluid of neurotoxic and proteolytic enzymes. This immobilises their prey and turns its innards to liquid, which the Robber Fly then digests leaving only the exoskeleton. It really is a jungle out there, so I guess eating one of your own while mating is par for the course!

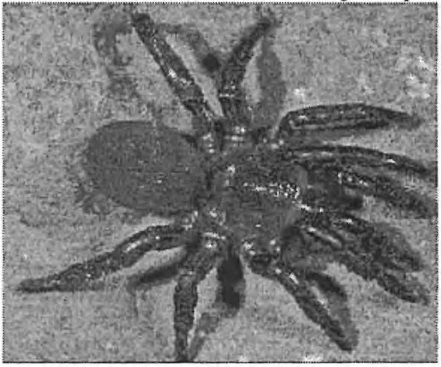
Peter Hendry

YOU ASKED

Do you know anything about spiders or can you recommend anyone? I found the individual in the attached photos in our lounge room. It has eyes close together, closely paired and short spinarettes, an unusual structure which looks like a venom fang neatly folded into a sheath on its palps I think they are called, and sizeable fangs in its mouthparts. I thought funnel web but cannot reconcile a structure on the first pair of legs. The 'fang' on what I am calling its palp is perhaps 4mm long with a small red bead structure just up from its base. It neatly folds into a sheath. It does not seem to be a mouse spider, fangs are not big but the actual injecting part of the fang on the head is 4 to 5mm long. It is definitely not one I know.

It is now in alcohol, so I could send it drained to the museum.

Regardless of what it is, I would rather not have it walking around my bare feet in the lounge. I thought it was dead when I first saw it, and went to pick it up, not smart as I felt it move in my fingertips. Any suggestions are appreciated . **Bob**



Congratulations, it is a lovely spider and indicative that you are in an area that is still favourable to ground dwelling wildlife. Your spider is a male Golden Trapdoor (*Euoplos variabilis*, previously called *Arbanitis*).

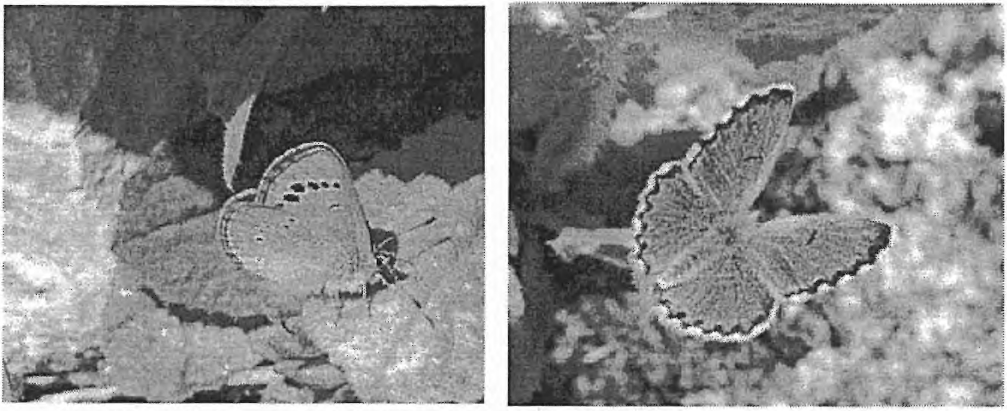
Dr Robert J Raven, Museum Scientist (Arachnology)

LETTERS

Hi Daphne,

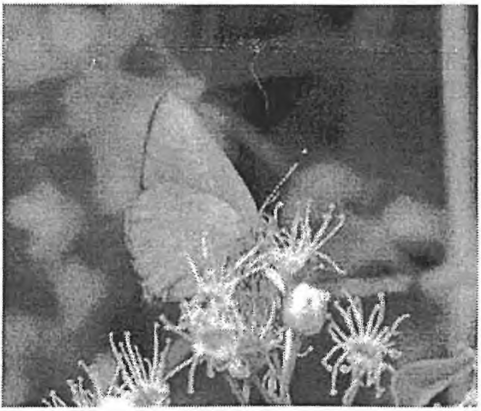
I have just come back from a short one and a half week trip to the south of France. I was lucky enough to be invited to give a keynote address at a conference in the city of Montpellier and before that I hired a car and spent four days touring the beautiful countryside of Provence. It was sunny with maximum temperatures in the early to mid twenties, and there were lots of butterflies on the wing. I had our camera with me and was able to get some photos of most of the species I observed. I do not know what species they are but I thought readers of the club newsletter might be interested to see them and also that some knowledgeable soul may be able to identify them for me. All the best, **Jon Marshall**

Blues



1) This little cutie was photographed basking on a rock face in the morning sun

2) This beautiful species was bright metallic green on the outside and when it flew the inside looked quite pale metallic blue. (not the best photo sorry)



Ed: I have been unable to include all of Jon's photos in this issue but will present more next time. If you would like to see the photos in colour, please email me.

SEED BANK NEWS

Seed Bank News

The following seeds are available by sending two 50c. postage stamps to BOIC Seed Bank Curator, 140 Henderson Road, Sheldon 4157, please supply your name and address and which seeds you require.

SEEDS	**BUTTERFLY**	
Aristolochia acuminata	Richmond Birdwing	(*Ornithoptera richmondia*)
	Clearwing Swallowtail	(*Cressida cressida*)
Glycosmis trifoliata	Orchard Swallowtail	(*Papilio aegeus*)
	Fuscous Swallowtail	(*Papilio fuscus capaneus*)
Paraserianthes lophantha	Large Grass-yellow	(*Eurema hecabe*)
	Tailed Emperor	(*Polyura sempronius*)
Senna acclinis	Large Grass-yellow	(*Eurema hecabe*)
	Small Grass-yellow	(*Eurema smilax*)
	Yellow Migrant	(*Catopsilia gorgophone*)
***Senna auriculata* #**	Common Pencilled-blue	(*Candalides absimilis*)
	Large Grass-yellow	(*Eurema hecabe*)
	Yellow Migrant	(*Catopsilia gorgophone*)
	Small Grass-yellow	(*Eurema smilax*)
	Orange Migrant	(*Catopsilia scylla*)
Senna surattensis	Yellow Migrant	(*Catopsilia gorgophone*)
Wilkiea huegeliana	Regent Skipper	(*Euschemon rafflesia*)

Note: # Exotic

There are only a few Wilkiea seeds and they may not be viable. We have had a request for the tiny seeds of the Native Mulberry (*Pipturus argenteus*). Can anybody help?

Also if you require any seeds not listed please let us know and we will try to supply them for you. If you have seeds of any butterfly host plants you are able to contribute to the Seed Bank please do so. Peter can be contacted at the above address or phone 3206 0048.

World Wide Websites to Watch

Web Site – CSIRO Moths http://www.ento.csiro.au/anic/moths.html - Australian Moths Online – This site provides images of selected Australian moths. They are grouped in families, with a special section on Pests.

Errors and Omissions

My goodness! Were you picturing square pupae in last issue's article about the White or Jezebel Nymph (*Mynes geoffroyi*)? In paragraph four, instead of "Long (about 30 mm.) and narrow (about 30 mm.) etc ….", it should have, of course, been "Long (about 30 mm.) and narrow etc ……." Sorry 'bout that. D.

Other Groups' Activities

The **Richmond Birdwing Recovery Network** AGM is to be held at "the Ecocentre" at Griffith University's Nathan campus on Saturday 28th October from 10am to 1pm.

Free parking has been arranged in the adjacent car park. Guest speaker Prof. Roger Kitching will speak on "Insects in the Treetops: Out of Sight - Out of Mind!"at around 11am.

SOWN Butterfly Festival – see BOIC Programme. Further details at http://www.saveourwaterwaysnow.com.au

PROPOSED EXCURSION

Proposed Excursion to The Border Ranges

I recently had the pleasure of accompanying renowned geologist Warwick Willmott on a Queensland Naturalist Club excursion to the Springbrook Plateau. Although the purpose of the trip was to identify the Rhyolite and Trachyte rock formations and observe the spectacular views of the Tweed Valley, inevitably, the interesting plants and birds became the focus of our multidisciplined group.

Obviously butterfly hostplants became my focus and many were seen, including the restricted sedge *Gahnia insignis*. I recalled seeing it previously both at Dave's creek near Binna Burra and on top of Mount Maroon. Recently a newly described subspecies of the skipper butterfly, *Hesperilla crypsagyra*, was found to be utilising this sedge as its larval hostplant. (Ref. : Johnson and Wilson, A new subspecies of *Hesperilla crypsagyra* etc. in Australian Entomologist Vol. 32 Part 4, 10th Dec 2005)

The authors of this paper observed this association at the Dave's Creek site and suggested that other similar sites with the sedge growing on volcanic "pavement" extrusions should be searched for this butterfly, especially during its known flight period (ie mid to late November).

I have done a search for the sites listed in the Queensland Herbarium records where *Gahnia insignis* voucher specimens were obtained and where the accompanying information showed a probable volcanic substrate. I found five locations in Southeast Queensland, one on Hinchinbrook Island in north Queensland, and a further two sites in northern New South Wales.

I am therefore proposing the club undertake trips to sites that can easily be accessed by motor vehicle from Brisbane and which involve no strenuous mountain climbing!!!
Depending on the site(s) selected a bonus may be the finding of a montane form of the Swordgrass Brown butterfly which has recently been found in the Mount Barney National Park, about 150 km north of its currently accepted northernmost distribution, near Stanthorpe NSW.(D&M Sands pers. comm.)

The dates proposed are the weekends of 11th /12th and 18th /19th November.
Pleases phone me with your expressions of interest. It is envisaged that we would carpool to contain costs, although I may investigate the possibility of small bus hire.

John Moss (phone 3245 2997)

BUTTERFLY AND OTHER INVERTEBRATES CLUB PROGRAMME

The September excursion is a flight cage extravaganza! Those members who visited Ross Kendall's set up at Indooroopilly a few years ago will recall his butterfly "cathedral" – a huge steel-framed and meshed enclosure. This time we will visit the (butterfly) flight cages of three of our members in the Redlands (and all of very different construction)

Where: Meeting at John Moss', 30 Melaleuca Drive, Capalaba
When: **10am Sunday 17th September 2006 (note change of date)**
Bring: Your lunch, camera etc.
Contact: Please register with John Moss 07 3245 2997 after 6pm Saturday 16th for further info and in case there are any last minute changes

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SOWN Butterfly Festival – SOWN (Save Our Waterways Now) is partnering with BCC Active and Healthy Park to bring you the SOWN Butterfly Festival. The festival is a fun family day out with an emphasis on some of the beautiful butterflies of Brisbane and their conservation. BOIC will have a display at this event

When: **Sunday 29th October, 2006**
Where: Woolcock Park, Waterworks Road, Red Hill

Proposed Excursion to The Border Ranges (see preceding article on page 22)

When: Weekend of either the **11th /12th** or **18th /19th November.**

Christmas Excursion and Lunch!

When: **9th December 2006, 10am – 3pm**
Where: Whites Hill Recreation Reserve, off Boundary Road, Camp Hill. UBD Map 181 B8. Meet in the grounds of the reserve at one of the covered picnic tables. Look for the club banner!
What: Enjoy a stroll through the bush observing invertebrates and host plants, before returning to the picnic area for a festive lunch. 11 butterfly species, including Tailed Emperors and Orange Ringlets, were encountered during a preliminary bushwalk in the middle of winter, so summer should be promising! There are toilet facilities in the reserve, and a large play area for children. There are also some wheelchair-friendly bush tracks.
Bring: Hat, sunscreen, Christmas lunch and drinks. There are free electric BBQs in the reserve, so feel free to bring along something to sizzle. Please bring a picnic rug or folding chair as an emergency backup in case the covered picnic tables are all taken. The organisers will try to get there early to avoid this from happening.
Contact: Alisha Steward, 3275 1186, 0402 091 863, jon@escapenet.com.au

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If you plan to attend one of the above events, please contact the person indicated in case, for some unforeseen circumstance, the event has had to be postponed or cancelled.

DISCLAIMER

The Newsletter seeks to be as scientifically accurate as possible but the views, opinions and observations expressed are those of the authors. The Newsletter is a platform for people to express their views and observations. These are not necessarily those of the BOIC. If inaccuracies have inadvertently occurred and are brought to our attention we will seek to correct them in future editions. The Editor reserves the right to refuse to print any matter which is unsuitable, inappropriate or objectionable and to make nomenclature changes as appropriate.

ACKNOWLEDGMENTS

Producing this newsletter is done with the efforts of:

- Those members who have sent in letters and articles
- Lois Hughes who provides illustrations including the cover
- Daphne Bowden who works on layout, production and distribution
- John Moss, Martyn Robinson and Robert Raven for scientific referencing and proof reading of various articles in this issue of the newsletter
- Helen Schwencke for conceiving the original idea for a Newsletter

We would like to thank all these people for their contribution.

ARE YOU A MEMBER

Please check your mailing label for the date your membership is due for renewal. If your membership is due, please renew as soon as possible.

Membership fees are $15.00 for individuals and $20.00 for families, schools and organizations.

Would you please advise bowden@itconnect.net.au if you get or change an email address.

Butterfly and Other Invertebrates Club Inc.
PO Box 2113
RUNCORN Q. 4113

Dr.Michael Braby
Biodiversity Conservation Div, Parks & Wildlife Service,
N.T. Dept of Natural Resources, Environment & the Arts
P.O. Box 496
PALMERSTON N.T. 0831

M'ship due July 2007

UNDERWOOD MAIL CENTRE
NRETA RECORDS
07 SEP 2006
UNDERWOOD MAIL CENTRE
QLD

Next event – A flight cage extravaganza! Sunday 17th September, 2006 commencing at 10am. See programme for details.

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